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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,452	10/27/2003	Tushar Prakash Ringe	1738.003US1	2488
7590 04/19/2005			EXAMINER	
Schwegman, Lundberg, Woessner & Kluth, P.A.			CORRIELUS, JEAN B	
P.O. Box 2938			ART UNIT	
Minneapolis, MN 55402			PAPER NUMBER	
			2637	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s) 	
	10/694,452	RINGE ET AL.	
	Examiner	Art Unit	
	Jean B Corrielus	2637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/27/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11 and 13-22 is/are allowed.
- 6) ☒ Claim(s) 1,6-8,12 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 27-31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2-22, 24, 26-31 are objected to because of the following informalities:

Claim 2, line 2, "can occur" should be "occurs".

Claim 3, line 9, after store, "said received period and width values" should be inserted.

Claim 6, line 4, "a secondary" should be "said secondary" so as to refer to antecedent in

claim 3, line 10; line 6, "a tertiary" should be "said tertiary" so as to refer back to

antecedent in claim 3, line 13; lines 9-10 suggest that expired width and period signals are generated by the timing controller and the final output waveform generator while in fact only the output waveform generator is set to generate expired width and period signals.

Claim 7, line 3, before data, "said" should be inserted.

Claim 9, please expand PWM in line 1; third lines before the last, "an" should "said" see claim 9, line 8.

Claim 14, lines 18-19, the limitation "wherein the down counter to generate an expired signal upon reaching a zero value" is redundant and therefore should be deleted.

Claim 17, line 4, "wave form" should be "waveform" in addition, lines 4-5 suggest that expired width and period signals are generated by the timing controller and the final output waveform generator while in fact only the output waveform generator is set to generate expired width and period signals.

Claim 18, line 1, "an" should be deleted.

Claim 20, "can be" should be replaced by "occurs". In addition, Claim 20 recites an audio processor comprising "a system-on-chip". However, it is noted that such "a system-on-chip" is not recited in combination with any other elements. In other words, the claim is a single element claim.

Claim 23, "a" should be replaced by "said". See for instance, claim 23, line before the last.

Claim 25 appears to a preamble without a claim body.

Claim 26, line 2, "can occur" should be replaced by "occurs".

Note that any claim whose base claim is objected is likewise objected.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6-8, 12, 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6, line 3, the limitation " a timing controller" is vague and indefinite as there is an unclear antecedent in claim 4, line 4.

Claim 6, line 3, the limitation "the data bus" lacks of proper antecedent basis.

Claim 12, line 2, "the DSP core" lacks of proper antecedent basis.

Claim 23, line 4, "the microcontroller core" lacks of proper antecedent basis.

Claim 25 is narrative in form and do not contain positively recited **steps** of a specific process. Note that method claims should set forth a **series of steps** in the active tense in an instruction-like manner thereby reciting an actual method. Dependent claim 26 should further limit base claims by reciting additional method steps in a likewise fashion. Ex parte Erlich 3UPQ2d 1011 at 1017[6].

Note that claims 7, 8, and 24 are likewise rejected because of the dependency to a rejected claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoeld US Patent no. 6,487,246.

As per claim 1 and 25, Hoeld discloses a method and apparatus fig.3 comprising a PWM waveform generator to generate a predictable PWM signal see col. 1, lines 61-62, col. 2, lines 18-25, on real time (note at col. 1, lines 17-19, Hoeld discloses that the PWM circuits is embedded in controllers and motor control circuits, an indication that the PWM signal is generated in real-time) based on a sequence of programmed period and duty cycle (width) values and associated primary period and primary duty cycle

(width) received from a processor see col.3, lines 18-25, lines 40-43 and col. 6, lines 65-67.

***Allowable Subject Matter***

6. Claims 2-5 and 27-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 12, 23 and 24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.


8. Claims 6-8, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 9-11 and 13-22 are allowed. However, the claim must be amended, if necessary, to overcome any objection sets forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B Corrielus  
Primary Examiner  
Art Unit 2637  
4/16/05